

Fig. 1

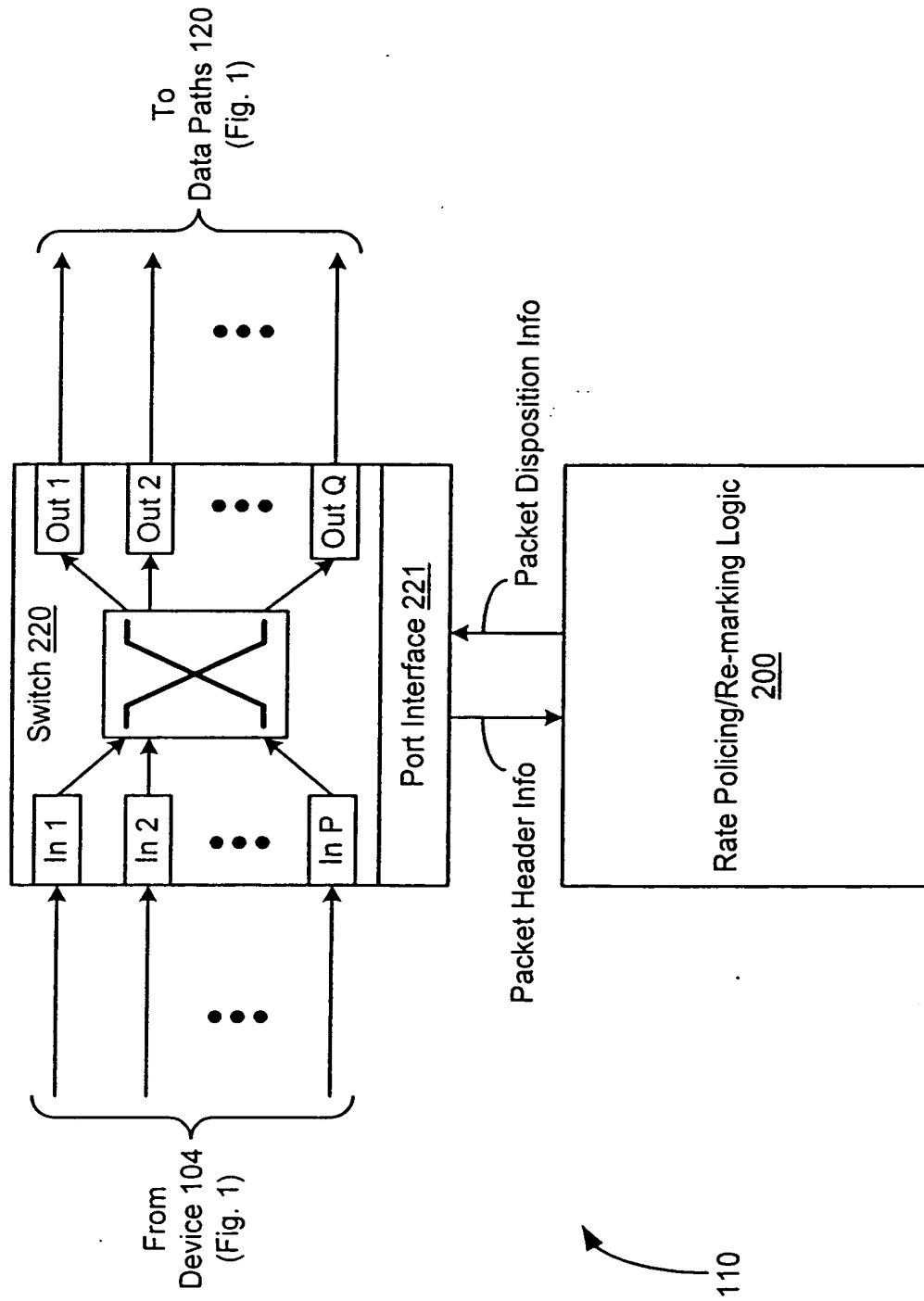


Fig. 2

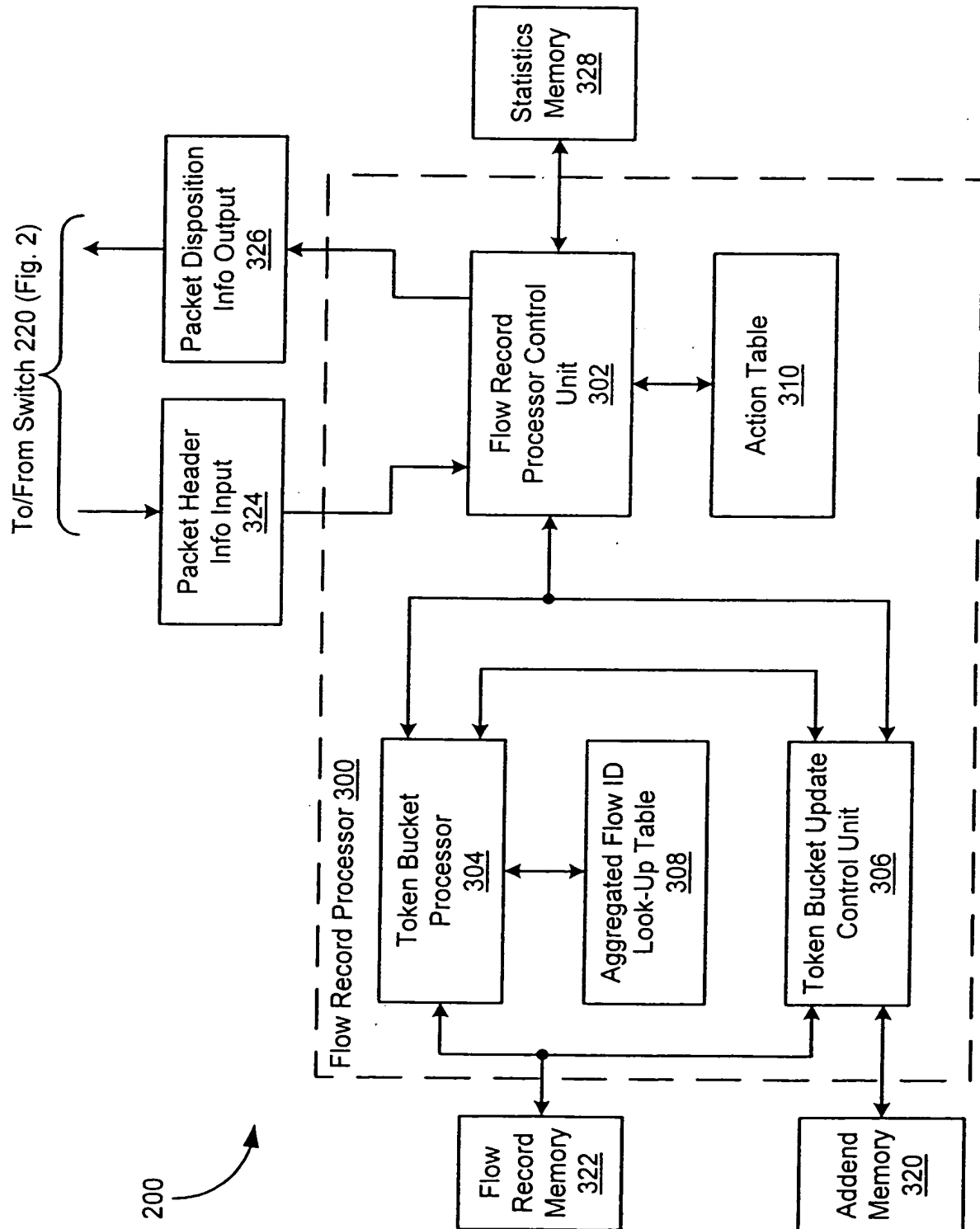
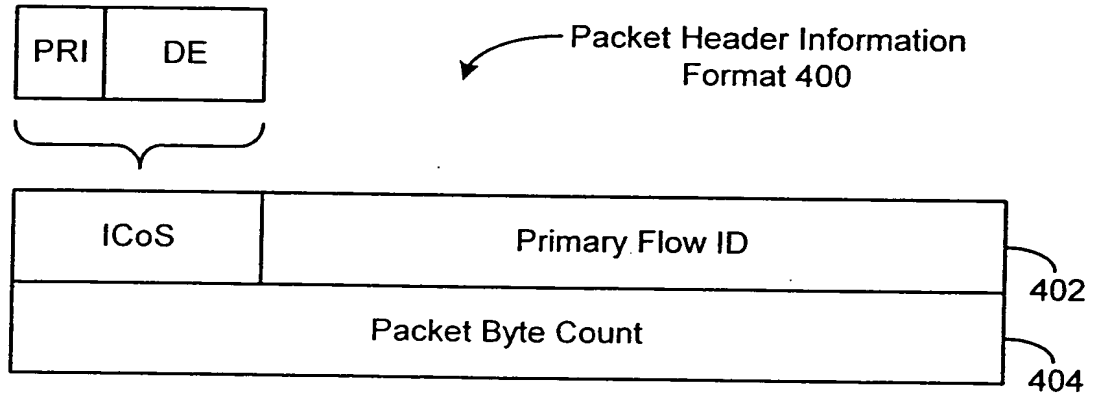
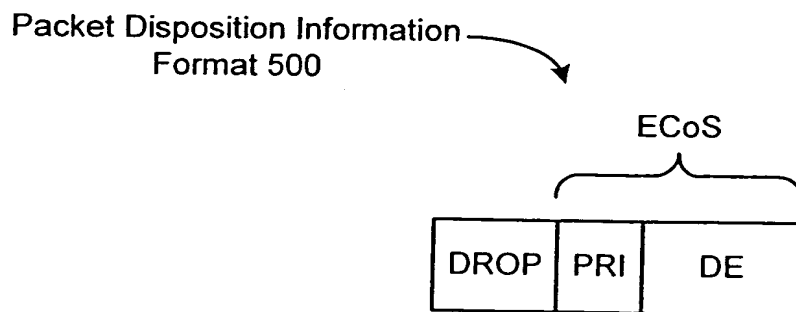


Fig. 3



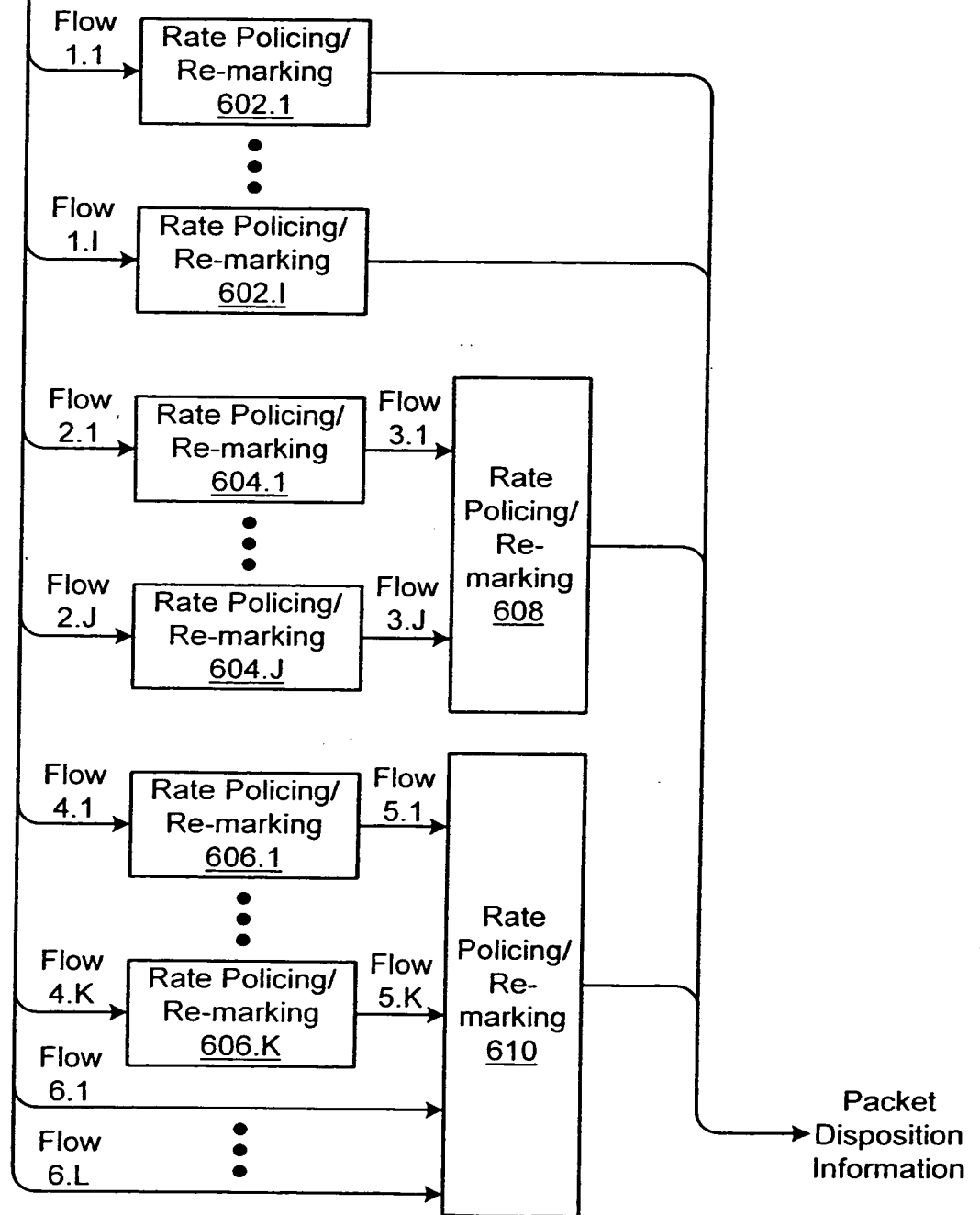
**Fig. 4**



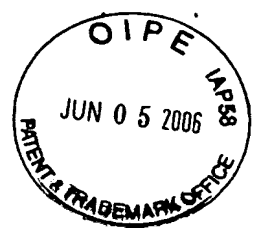
**Fig. 5**



Packet  
Header  
Information

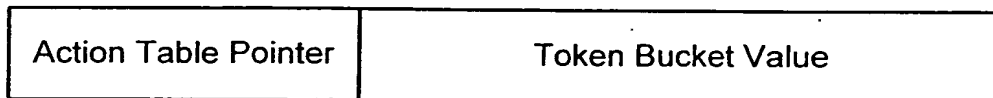


**Fig. 6**



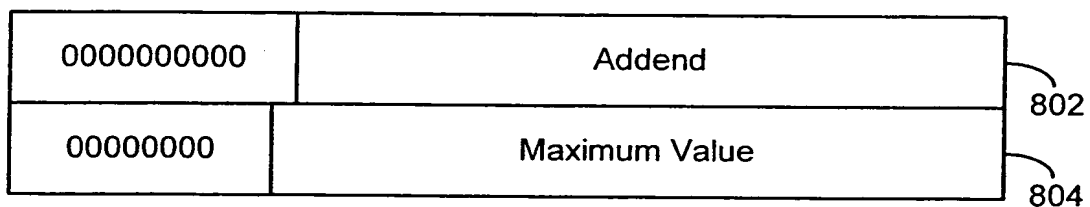
6/10

Flow Record Format 700



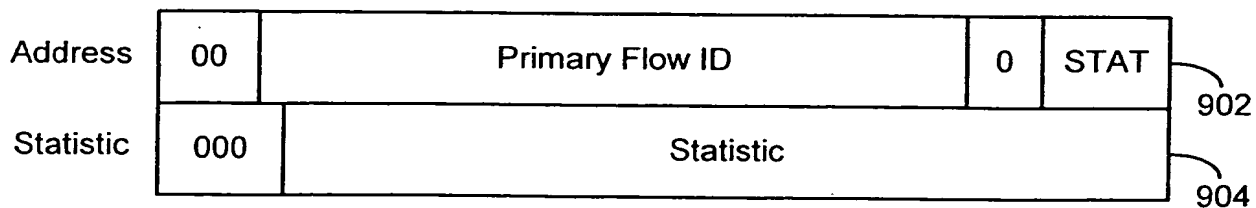
**Fig. 7**

Token Bucket Addend/Maximum Value  
Format 800



**Fig. 8**

Statistics Write Address and Data  
Format 900



**Fig. 9**



7/10

Aggregated Flow ID Format 1000

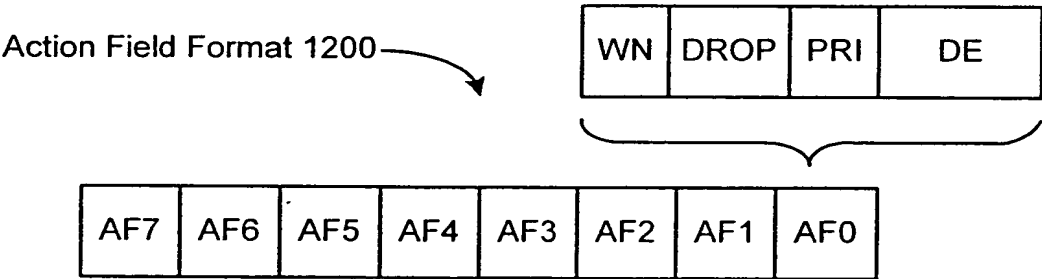
V	Aggregated Flow ID
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**Fig. 10**

Action Table Format 1100

Aggregated Flow Action Fields	New	Primary Flow Action Fields
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**Fig. 11**



**Fig. 12**





9/10

```
Label: GetNextPacket      // From Packet Header Input
B = PacketByteCount
CCOS = ClassofServiceofPacket
NCCOS = NewClassofService
NCCOS = CCOS

// Use PrimaryFlowID to look-up primary token bucket flow record and
// AggregatedFlowID
PTB = TokenBucket(PrimaryFlowID)
ATB = TokenBucket(AggregatedFlowID)
ATP = ActionTablePointer(PrimaryFlowID)
V = ValidBit(PrimaryFlowID)
AFID = AggregatedFlowID(PrimaryFlowID)

// Use the ATP to get the current action table entry
AT1 = ActionTableLow(ATP) // Primary Action Table Entry
UseNewCos = ActionTableNew(ATP) // Action Table New Bit
AT2 = ActionTableHigh(ATP) // Aggregated Action Table Entry

// Perform the primary token bucket test
If PTB - B < 0;
    If Drop(AT1, CCOS) = True;
        Drop the packet;
        go to GetNextPacket;
    else
        NCCOS = NewCCOS(AT1, CCOS);
        If WholeNumber(AT1, CCOS) = False;
            PTB = PTB - B;
else
    PTB = PTB - B;
```

**Fig. 13a**



10/10

```
// Check the valid bit of the AggregatedFlowID
If V = False;
    Write NCCOS into egressPacketHeader;
    go to GetNextPacket;
else // Use AggregatedFlowID to look-up aggregated token bucket
    // flow record
    If UseNewCCOS = True;
        CCOS = NCCOS;
    // Perform the aggregated token bucket test
    If ATB - B < 0;
        If Drop(AT2, CCOS) = True;
            Drop the packet;
            go to GetNextPacket;
        else
            NCCOS = NewCCOS(AT2, CCOS)
            If WholeNumber(AT2, CCOS) = False;
                ATB = ATB - B;
    else
        ATB = ATB - B;
    Write NCCOS into egressPacketHeader;
    go to GetNextPacket;
```

**Fig. 13b**